

Development of cognitive independence by active observations in the process of teaching in the People's astronomical observatories

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Развитие на познавателна самостоятелност чрез активни наблюдения в процеса на обучение в народните астрономически обсерватории

Алексей Д. Стоев. Анотация на дисертация

The didactic effectiveness of new methods of independent educational - research activity of students in the People's astronomical observatories has been investigated in the dissertation. The difference in the level of theoretical knowledge and observational skills of the students from the six problem groups of the Astronomy school at the People's astronomical observatory in Stara Zagora has been objectively determined by tests in the experimental and control groups.

For the first time original programs and structures of the educative content for each of the problem groups have been worked out. The didactic characteristics of the educational - cognitive method of astronomical observation have been determined by epistemological analysis. A system of didactic tests for studying the development of cognitive independence and activity of the students during their participation in astronomical observations has been developed and experimented.

For the first time a special system of methods for application of the astronomical research observations for development of the cognitive independence of the students has been formulated. Original methods of determining the level of students cognitive independence during their training for observation of the total solar eclipse on 11 August 1999 have been applied. The didactic system has been used and successful scientific investigations of the total solar eclipse have been conducted by students from experimental group. The results have been generalized in 11 scientific papers.

Key words: astronomical education, didactic system